

Remarks

On July 22, 2003, the undersigned attorney for Applicants conducted a telephonic interview with the Examiner to discuss the Examiner's May 28, 2003 final Office Action rejecting claims 1, 3-14 and 27-50 under 35 USC 103(a).

More specifically, Applicants' attorney pointed out that the prior art of record failed to teach or suggest an integrated camera and scanner unit as disclosed in the Applicants' Specification, and claimed in certain pending claims that had been rejected (e.g. claims 27, 41, etc.). Applicants' attorney discussed the need and advantages of such an arrangement in the warranty claim and product concern reporting/evaluation industry.

The Examiner generally agreed and suggested amending the pending independent claims to recite this feature with greater specificity. The Examiner stated that amending the independent claims in this manner would overcome the prior art of record. Applicants have amended independent claims 1 and 40 in this regard, and have canceled pending claims 27-37, 39, 41, and 46-50 to more particularly point out and distinctly claim that which Applicants regard as their invention.

Support for the Applicants' amendments to independent claims 1 and 40 is found at least on pages 17, 20-23, and with reference to Figures 1, 2a, 2b, and 8-15.

Shortly after the interview, the Examiner conducted an updated prior art search in view of the proposed amendment, and located two prior art references. (Exhibit A) The earliest of these references is dated June 1999 and entitled " 'Been there, done that' with scanning technology" (the "Loudin" reference).

Exhibit B is a Declaration under 37 CFR §131 by William Rowse, co-inventor of the claimed invention, demonstrating that the claimed invention was conceived prior to June 1999 – the date of the Loudin reference. In addition, the Declaration demonstrates continuous

diligence to reduce the claimed invention to practice from prior to June 1999 through April 12, 2000 – the date the patent application was filed.

More specifically, Exhibit 1 attached to the Declaration is a presentation created by Mr. Rowse on April 24, 1999 generally describing certain aspects of the claimed invention. This presentation was authored by Mr. Rowse, a co-inventor of the claimed invention and confirms conception of the claimed invention prior to June 1999.

Exhibit 2 attached to the Declaration is a document authored during a design meeting on May 13, 1999 including a subcontractor (PECA) to the inventors and one of the subcontractor's suppliers (COLRUD Corp.). This document includes a sketch of the Applicants' integrated digital camera and scanner unit removably-cradled into a docking station.

Experimental embodiments of the claimed invention were first piloted at various Ford Motor Company dealerships on October 4, 1999. This fact is memorialized by the "Digital Imaging Install Schedule" shown in Exhibit 3 attached to the Declaration. These experimental embodiments underwent re-engineering and were not perfected until early 2000.

Exhibit 4 to the Declaration is an excerpt from an invention disclosure prepared by the inventors on January 11, 2000.

Between January 11, 2000 and April 12, 2000, the inventors met with and were in regular communication with Ray Vivacqua, the patent attorney who prepared and filed the patent application for the claimed invention.

In view of the foregoing, Applicants respectfully contend that the claimed invention was conceived prior to the effective date of the Loudin reference, and that the Applicants exercised continuous due diligence in reducing the invention to practice from prior to the effective date of the Loudin reference to the filing of the patent application.

Accordingly, allowance of the rejected claims, as currently amended, is respectfully requested.

Summary

Applicants have made a genuine effort to respond to the Examiner's objections and rejections in advancing the prosecution of this case. Applicants believe all formal and substantive requirements for patentability have been met and that this case is in condition for allowance, which action is respectfully requested.

No additional fee is believed to be due as the result of the filing of this paper. However, any additional fees or credits should be applied to Deposit Account 06-1510 (Ford Global Technologies, Inc.) as authorized by the original transmittal letter in this case.

The Examiner is requested to telephone the undersigned to discuss prompt resolution of any remaining issues necessary to place this case in condition for allowance.

Respectfully submitted,

WILLIAM T. ROWSE ET AL.

By


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Reg. No. 48,158

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Date: August 27, 2003

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Fax Cover Sheet

To: John Leroy (48158)

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From: Jon Ouellette

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Documents Attached: 6
(Including Cover)

Re: Application 09/547,661

7/22/2003

Please find the attached prior art teaching the combination of a digital camera and a barcode reader/scanner.

If you require additional information – please call me (703) 605-0662.

Thank You,



Jonathan Ouellette

T S4/FULL/3

4/19/3 (Item 3 from file: 15)
DIALOG(R) File 15:ABI/Inform(R)
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"Been there, done that" with scanning technology?

Loudin, Amanda

Warehousing Management v6n5 PP: 38-41 Jun 1999 ISSN: 1077-4068

JRNL CODE: WHMG

DOC TYPE: Journal article LANGUAGE: English LENGTH: 4 Pages

WORD COUNT: 1613

ABSTRACT: Folks in the warehousing industry have long been familiar with barcoding. In fact, you might feel that barcoding is so run-of-the-mill these days that there is little in the way of scanning technology that could catch your eye. In fact, fierce competition keeps the scanning technology industry in perpetual motion, and several recent scanner innovations may recharge your interest in a class of product you thought was static. Today's scanners are more rugged, have a much greater range than ever before and are much more likely to hit their mark than their predecessors. The addition of imaging technology is poised to turn the scanning world upside down, some in the industry are saying. If you were to look into a crystal ball and see where scanning technology is headed, you might see a digital camera.

TEXT: Headnote:

Not so fast Several innovations are changing the scanning landscape.

Most people can remember the trip several years ago that former President George Bush made to the grocery store. It seems Bush had led such a sheltered life during his years in office that he'd never seen the barcode

scanners that check-out clerks use to price items.

While President Bush may have been astonished by the easy swipe of a barcode over a scanner for instantaneous feedback, folks in the warehousing industry have long been familiar with barcoding. In fact, you might feel that barcoding is so run-of-the-mill these days that there's little in the way of scanning technology that could catch your eye.

If that's your opinion, you're way off the beam. Scanning-technology vendors haven't been resting on their laurels. Fierce competition keeps the industry in perpetual motion and several recent scanner innovations may recharge your interest in a class of product you thought was static.

Tough, more accurate, smarter

Today's scanners are more rugged, have a much greater range than ever before and are much more likely to hit their mark than their predecessors. For instance, it used to be that bar-code scanners were too delicate to work in the refrigerated industry-the constant in and out of wide temperature ranges wreaked havoc on the scanners' windows. No longer. Symbol Technologies offers a new rugged scanner that comes with its own internal heater, which keeps the scanner window clear and easy to read.

"The heater keeps the scanner above the freezing point," says Mark Perry, senior product manager. "The scanner allows users to stay in the freezer much longer, and they can also move in and out of the different temperatures more often."

While the new generation of scanners is more rugged than its ancestors, it's not traditional laser technology that has some vendors and users excited. The addition of imaging technology-digital cameras to lasers-is

poised to turn the scanning world upside down, some in the industry are saying.

"The industry is on the verge of a major change," promises Scott Cardais, president and chief executive officer of Hand Held Products, Charlotte, NC. "Imaging will change scanning dramatically in the next two years." In the palm of your hand The benefits of scanning are well documented, and vendors don't have to work hard to convince warehouse managers that the technology is a worthwhile investment.

That's certainly been the case at San Diego-based PETCO. With nearly 500 pet-supply stores around the nation, the retailer's eight distribution centers (three main, five regional) handled operations manually until just a couple of years ago. Today, scanning technology has made all the difference in the chain's productivity.

For instance, for years at one of the main distribution centers (DCs), outbound quality control was done manually, with workers checking items in store-ready cartons against a stock list. Now, the staff uses handheld scanners to read barcodes on cartons and check contents.

The results? Significant improvements in accuracy and productivity.

"We can audit more cartons per day," Andrew Ross, information systems project manager, explains. "In addition, when the cartons arrive at the stores, the same UPC code can be scanned, making their receiving much smoother."

Helping the PETCO quality control effort is a new, long-range cordless scanner from Symbol. The scanner's 30-ft. range allows staff to easily walk around large boxes for easy scanning. This new breed of handheld scanner is part of an emerging trend-scanners built for specific jobs.

"It used to be that handhelds were pretty much general purpose, the same one working the frontend and back-end," says Linda Miller, vice president of worldwide marketing, PSC, Webster, NY. "Now, vendors realize that a general-purpose scanner won't cut it in the more rugged warehouse environment. It might be dropped, banged around or any number of things in a warehouse."

For this reason, PSC recently released the PowerScan, the first in a series of rugged scanners designed for industrial applications. The scanner is sealed to protect it from dust and rain so that it can be used indoors and outdoors, such as on the dock.

Fix it

Technology advancements in the scanning arena are not limited to handheld scanners. Fixed scanners, usually found mounted over a conveyor belt, are also making headlines these days.

Fixed scanners originally came in one form, line scanners. These first-generation fixed scanners, which appeared about 20 years ago, could read bar-code labels in one spot only. That required a lot of manual handling to ensure that boxes and cartons hit the conveyor belt in exactly the right position, or the scanner would miss the label.

About 10 years ago, the first omnidirectional scanners hit the market, improving on the one-shot-only line scanners. The price of these scanners has come down over the years. With omnidirectional scanning, labels affixed to one side of a box could be read with relative ease. Still, some box-to-belt manual handling was required.

But the latest fixed scanners are just about eliminating human parcel handling. The first of these was known as tunnel scanning-by placing a couple of omnidirectional scanners together, vendors offered users a fixed scanner that could read a label from every side of the box. Every side,

that is, except the bottom.

PSC, however, has found a way around this issue.

"We're releasing a product that can read all six sides of a box," Miller says of the company's pending highspeed linearoptions scanner. "All that is required is a two-inch break in the conveyor belt and we can get a read on the bottom of the box; the box will move continuously. It will allow for an operatorfree environment."

The bleeding edge

If you were to look into a crystal ball and see where scanning technology is headed, you might see a digital camera.

Several vendors, Hand Held and Accu-Sort among them, claim that the future of scanning is in imaging, not among the traditional lasers.

Both vendors have developed new scanners incorporating the cameras, Hand Held with a handheld device, and Accu-Sort with a fixed scanner.

Says Hand Held's Cardais: "You've seen some incremental improvements over the years in the range and ability of lasers to read in different lights and settings. But imaging is going to revolutionize the industry."

The digital cameras will be used in conjunction with traditional lasers, Cardais says. Scanners will incorporate not just lasers, but a tiny camera as well that will make the scanning and image-capture process seamless for users.

When a user scans a barcode, the laser will read the code and the digital camera will photograph it. The scanner will store the images and compress them, to be downloaded to a computer later. What will be the benefits of imaging in addition to scanning? For one, you won't get just a scan of a bar-code label on a box or carton. You'll also get a picture of the box, or perhaps the signature of the person who received it. This may come in handy for damage claims.

"Say you're a large transport company with lots of claims," Cardais says. "When a delivery comes in with damage, you have to call the head office of the shipper and have someone come out to your facility to check the damage out, usually the next day. With an imager, you need only take a picture of the damage and send it over the Internet, getting instant response to your claim."

Imaging can also increase speed, Jack Cochran, vice president of sales for Accu-Sort, Telford, PA, says.

"Lasers can't read at as high of a speed as imagers can," he says. "A laser gives between 500 and 1,000 reads per second, while a digital camera can take up to 10,000 pictures in a second. In a big DC, a 1% increase in your read rate is significant."

This Accu-Sort product will have a digital camera, and no laser barcode reader. The camera will be backed up by software that will enable the camera to read barcodes. The digital camera in the Hand Held product will only capture images, with a laser scanner reading barcodes. Accu-Sort and Hand Held have the new types of scanners in pilot sites and expect them to be available for purchase soon. Cochran adds that imagers will be able to read 2D and ID bar-code labels.

Right now, the cost difference in the traditional scanner and the camera-enhanced scanner is about 35%, according to Cochran. But, he says, like all technology, that price will come down.

"The return on investment is justified in no time," he says. "If you do 100,000 to 200,000 scans each day, this is ideal."

Still, while the new imaging technology is exciting, many users are happy with good 'ol laser scanners.

"We used to have two small DCs in New Jersey, but since implementing the scanners, we've been able to consolidate," PETCO's Ross says of the longrange cordless handheld scanners the company recently introduced in its DCs. "The increases we've experienced have had a big impact on our operations."

Amanda Loudin writes regularly on warehousing technology for WM.

To comment on this article, call (610) 9644385 or send e-mail to mlearolimpi@cahners.com.

Sidebar:

Scanners aren't what they used to be.

Scanners today have advantages over their predecessors.

These advantages include:

ruggedness

greater range
higher accuracy

portability

more uses

Major changes are looming, too, with the introduction of imaging technology that allows scanners not only to read bar-code labels, but also to photograph labels and cartons. Digital cameras in handheld and stationary scanners will enable distribution operations to capture more information and to use that information in a variety of ways, from inventory accuracy and planning to verification and damage control.

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2612460 Supplier Number: 02612460 (THIS IS THE FULLTEXT)

Digitella creates barcode technology for digital images

(Digitella introduces new line of software for collection of metadata for digital images; software works with barcode scanner from Symbol Technologies)

Digital Imaging Digest, p 7

October 1999

DOCUMENT TYPE: Newsletter; News Brief (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 125

TEXT:

Digitella Technology, Irvine, Calif., (www.digitella.com) announced the development of a new line of software products to assist in the efficient collection of metadata for digital images. Digitella's IntelliPix software system now includes the ability to attach peripheral devices to digital cameras in order to assign metadata to each image at the time of capture.

One device is a laser barcode scanner from Symbol Technologies. By attaching a Symbol Technologies laser barcode scanner to a digital camera running IntelliPix software, businesses can automatically assign barcode data to a digital image at the time the photograph is taken; then the data can be accessed in the image workflow by IntelliPix to route, process, rename or archive these images, eliminating the need to manually identify each individual image.

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COMPANY NAMES: DIGITELLA TECHNOLOGY SOLUTIONS INC; SYMBOL TECHNOLOGIES INC

INDUSTRY NAMES: Applications software; Software

PRODUCT NAMES: Utility software packages (737242); Graphics software packages (737269)

CONCEPT TERMS: All product and service information; Product introduction

GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

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